



OFFICE OF PUBLIC INSTRUCTION

PO BOX 202501
HELENA MT 59620-2501
www.opi.mt.gov
(406) 444-3095
(888) 231-9393
(406) 444-0169 (TTY)

Linda McCulloch
Superintendent

Grade 8 Math Performance/Achievement Descriptors

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| Advanced | <p>Students at this level demonstrate a comprehensive and in-depth understanding of rigorous subject matter</p> <ul style="list-style-type: none">• Write and compare numbers in scientific notation• Evaluate an algebraic expression involving exponents and more than one variable for given values• Identify and interpret the slope of a linear function from a graph, equation, or written description• Sort triangles by sides and angles• Determine the coordinates of the image of a vertex of a polygon after a rotation• Apply properties of similar triangles to solve a problem• Calculate the area of a quadrilateral• Calculate the volume of a solid composed of triangular and rectangular prisms• Apply the Pythagorean Theorem to find the length of a segment on the coordinate plane• Interpret a histogram or bar graph |
| Proficient | <p>Students at this level demonstrate a solid understanding of challenging subject matter</p> <ul style="list-style-type: none">• Calculate and compare unit costs• Use proportions and percents to solve a problem• Write an equation with two variables to describe a real-world situation• Apply properties of the real numbers to manipulate formulas and simplify expressions• Identify the equation of a nonlinear function from a table• Identify the graph of a function that best represents a described real-world situation• Solve a two-step linear equation• Identify the coordinates of the image of a vertex of a polygon after a translation or reflection• Determine whether points on a coordinate plane can be vertices of a parallelogram• Identify the net of a cube• Estimate equal units in different systems of measure• Identify a scatterplot given a description of the variables being compared• Use data in a table or scatter plot to make a prediction• Interpret a line graph |
| Nearing Proficiency | <p>Students at this level demonstrate a partial understanding of subject matter</p> <ul style="list-style-type: none">• Express a ratio as a fraction or decimal• Identify a proportion that can be used to relate quantities in a real-world situation• Identify an inequality or equation with one variable that describes a real-world situation• Extend an arithmetic sequence at least three terms• Interpret the meaning of the y-intercept of the graph of a linear function in a real-world context• Identify a single transformation applied to a figure that produces a given image• Calculate the area of a triangle or quadrilateral on or off the coordinate plane• Identify a strategy to collect data that is most representative of a group• Calculate the simple probability of a single event |

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| Novice | <p>Students at this level demonstrate a minimal understanding of subject matter</p> <ul style="list-style-type: none"> • Perform multiple operations on decimal numbers to solve a problem • Evaluate numerical expressions involving square roots of perfect squares • Identify the y-intercept of a linear function given the graph of the line • Order rational numbers in decimal form • Describe in words a rule for a given a geometric sequence • Identify a linear graph that represents an arithmetic sequence given a rule in words • Identify the side view of a three dimensional figure drawn in perspective |
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